9 ADVISORY COMMITTEE RECOMMENDATIONS

Idaho should consider a number of options that might potentially: 1) position the state to take advantage of carbon markets, 2) increase knowledge of carbon sequestration and greenhouse gas emissions, 3) increase understanding of Idaho greenhouse gas and carbon sequestration related practices and activities, 4) improve management of existing stored carbon, 5) expand the storage of carbon, or 6) increase the use of agricultural and forestry products to produce substitute energy, such as ethanol and biodiesel and on-farm alternative power generation. There are many non-agricultural related activities that could result in emission reductions, which could benefit the state, however, they are beyond scope of report, legislative intent.

Maintain the carbon sequestration advisory committee to monitor ongoing developments, facilitate economic analysis, facilitate research activities, and provide information to landowners

Recent international action on climate change and carbon sequestration has been very significant in the past few years. The potential market implications of international action are developing. A standing carbon sequestration advisory committee could respond quickly to international or national legal changes and changing market conditions. Activities that a standing committee may initiate or continue include:

- Provide guidance to the state on continuing carbon sequestration market development,
- Facilitate statewide and regional research activities,
- Improve the state's visibility to enhance the benefits to landowners through national carbon markets,
- Secure private and federal funds to support advisory committee, economic analysis, additional research activities, carbon market development, landowner education, and implementation of carbon sequestration practices and biofuels production.
- Where appropriate, enter into partnerships or agreements with other states or organizations, to further enhance benefits to Idaho.

Initiate a carbon market pilot project

A pilot project, involving Idaho interests and potential carbon market participants, would address numerous uncertainties and issues within carbon markets and emissions trading. Within a pilot project there would be specific activities carried out to prepare the state for potential markets and develop a system to encourage and facilitate emission trading agreements. A pilot project would encourage future participation in carbon markets and enhance the state's potential in drawing outside funding into the state.

Improve landowner's understanding of climate change and carbon sequestration

Idaho's landowners do not fully appreciate their potential for sequestering carbon and benefiting from a carbon market. Actions should be explored to increase their understanding of their potential:

- State and local federal natural resource agencies could include into their existing programs, strategies to improve landowner's understanding of climate change and carbon sequestration
- Universities and governmental research agencies could include in their existing research activities, relative carbon sequestration information
- Organize and host one or more state-wide forums devoted to carbon sequestration.

Enhance carbon sequestration research relevant to Idaho

These actions could conceivably include research on a variety of topics, including potential methods of monitoring, measuring, and verifying of sequestration and reduced agricultural or forestry related emissions. Cooperative efforts with researchers in other states and Canada should be enhanced. Local, state, federal , and private funding sources should all be explored to assist in the coordination and research priorities. Where cooperative partnerships already exist between private landowners and state agencies, there is the potential to expand research activities.

Some specific areas of research are listed below:

- The effects of no-till or direct seed tillage practices within high-elevation areas and irrigated areas
- Verification of carbon sequestration and emissions reductions within forest and cropland areas, consistent with international methods
- Remote sensing techniques, correlated with field measurements
- The effect of land use change on carbon sequestration, such as the conversion of native rangeland to irrigated agriculture, then to urbanization
- The effect of nutrient management on nitrous oxide reductions
- Methane recovery system effectiveness and aerobic treatment, such as with digesters and composting, respectively
- The effects of dietary adjustments on methane emissions from ruminant animals
- Feasible alternatives to crop residue burning, the effects on greenhouse gas emissions
- The effect of multiple practices on carbon sequestration, such as the combination of no-till, nutrient management and irrigation

Complete carbon sequestration and greenhouse gas baseline analyses to prepare for future carbon sequestration markets

For the purposes of this report, some initial baseline estimates have been used to determine statewide benefits of carbon sequestration. Further analyses is needed to improve statewide estimates, such as:

- Develop a state-wide greenhouse gas inventory – primary gases include carbon dioxide, methane, and nitrous oxide
- Document currently active carbon sequestration practices in the state
- Determine baseline soil carbon conditions in the state
- Calculate current carbon flux within forest and croplands
- Develop and maintain a comprehensive database, with GIS capability

Further study the potential economic benefits to Idaho landowners and the state through carbon markets

To understand the economic benefits of a carbon market, some actions should be taken:

- Initiate at least three case studies to evaluate the 'whole-farm' cost and benefit of implementing practices within a carbon market (northern, southern, and eastern Idaho)
- Initiate at least one case study to evaluate the forest related 'whole-farm' cost and benefit of implementing practices within a carbon market
- Further evaluate the potential economic impacts of additional ethanol and biodiesel production within the state, considering the local impacts surrounding a facilities

Explore requiring carbon participants to be registered with the state

Through a registration process, with the development of a registry, some additional legal protection could be provided to landowners and the public against potential questionable carbon brokers and aggregators. This registration can help encourage credible marketing activity and help bring additional funds to agriculture and forestry. There exists a federal registry within the Energy Policy Act (EPACT) of 1992 that contains a program called "section 1605(b) reporting" that could be utilized in the development of a state registry.

Explore avenues to increase carbon sequestration in the state

To promote increased carbon sequestration activities in the state of Idaho, and a mechanism to connect landowners to potential buyers of carbon credits. Potential avenues are listed below:

- Enable or enhance existing state agricultural and forestry programs to include and promote carbon related practices,
- Include state lands in the carbon sequestration activity related programs, where endowment lands may potentially receive greater economic benefit through carbon sequestration activities
- Encourage public lands to be included in potential carbon sequestration markets
- Explore the potential of continuing existing practices implemented through other programs, such as Conservation Reserve Program, with carbon sequestration market funds
- Explore increasing necessary technical assistance to landowners with carbon sequestration market funds
- Explore designating a state agency to track carbon market activities
- Explore the potential of a state agency to act as an aggregator, where appropriate, to increase the marketability of a landowner's sequestration activity

Explore the potential for improving the production and use of biofuels in the state and their economic benefit

The state should explore preparing an economic study to evaluate the benefit to the state through biofuels production, while utilizing Idaho resources. A comprehensive program includes economic analysis will be important for future biofuels activities.

A comprehensive program should consider:

- The percent of biofuel blended in the parent fuel,
- Promote ethanol in the manufacturing of biodiesel,
- Changing the present incentive to a producer's credit,
- Future technologies,
- The removal of gasoline franchise restrictions on fuel additives
- State government automobile fleet use of ethanol and biodiesel
- The use of forest wastes in biofuels, conversion of cellulose into liquid fuel
- The effect of state-wide use of E10 and B20 on air quality